



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventors:

J Helen Fitton, Charles Dragar

Title of Invention:

EXTRACTS FROM THE MARINE ALGAE UNDARIA,

COMPOSITIONS THEREOF AND METHODS OF USE

Serial No.:

10/611,370

Filing Date:

June 30, 2003

Attorney Dkt. No.: 2263-1-3

Certificate of Mailing

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In compliance with the duty of disclosure under 37 CFR § 1.56, Applicant submits herewith patents, publications, or other information for consideration during the examination of this application.

In accordance with 37 CFR § 1.97, the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made nor that the information cited in the statement is or is considered to be "material" to patentability as defined in 37 CFR § 1.56(b).

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Respectfully submitted,

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orm PTO-1449 Docket Number (Optional) **Application Number** 2263-1-3 10/611, 370 INFORMATION DISCLOSURE CITATION IN AN APPLICATION (Use several sheets if necessary) Applicant(s) J. Helen Fitton, et al. Filing Date Group Art Unit June 30, 2003 1614 U.S. PATENT DOCUMENTS **EXAMINER** DOCUMENT DATE NAME CLASS SUBCLASS FILING DATE INITIAL NUMBER **APPROPRIATE** FOREIGN PATENT DOCUMENTS DOCUMENT DATE COUNTRY CLASS SUBCLASS Translation NUMBER YES NO OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) Barton, Simon E., et al., The Clinical Management of Recurrent Genital Herpes: Current Issues and Future Prospects, Herpes: 9(1), 15-20 (2002). Black, W.A.P., et al., Manufacture of Algal Chemicals, J Sci Food Agric, 122-129 (1952). De Clercq, Erik, et al., Antiviral Drugs: Current State of the Art, J Clinical Virology, 22, 73-89 (2001). Hoshino, Tomomi, et al., An Antivirally Active Sulfated Polysaccharide from Saragassum Horneri, Biol Pharm Bull, 21, 730-734 (1998). Hudson, J. B., et al., Aniviral Compounds in Extracts of Korean Seaweeds: Evidence for Multiple Activities, J. Appl. Phycology, 10, 427-434 (1999). Huleihel, Mahmoud, et al., Antiviral Effect of Red Microalgal Polysaccharides on Herpes Simplex and Varicella Zoster Viruses, J. App. Phyco., 13, 127-134 (2001). Itoh, Hiroko, et al., Antitumor Activity and Immunological Properties of Marine Algal Polysaccharides, Especially Fucoidan, Prepared From Sargassum Thunbergii of Phaeophyceae, Anticancer Res. 13(6), 2045-52 (1993). Koo, Jae-Geun, et al., Isolation and Purification of Fuciodans from Laminaria Religiosa and Undaria Pinnatifida in Korea, J. Korean Fish Soc., 28(2), 227-236 (1995). Liu, Ting, et al., Gamma Interferon Can Prevent Herpes Simplex Virus Type 1 Reactivation from Latency in Sensory Neurons, J. Virol., Nov., 75(22), 11178-11184 (2001). Maruyama, Hiroko, et al., Antitumor Activity and Immune Response of Mekabu Fuciodan Extracted from Sporophyll of Undaria Pinnatifida, In Vivo, 17(3), 245-249 (2003). **EXAMINER** DATE CONSIDERED EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the

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	(Undaria Pir 121 (1982).	Mori, H., et al., Sugar Constituents of Some Sulphated Polysaccharides From the Sporophyllis of Wakame (Undaria Pinnatifida) and Their Biological Activities, Marine Algae in Pharmaceutical Science, Vol. 2, 109-121 (1982).									
		Naesens, Lieve, et al., Recent Developments in Herpesvirus Therapy, Herpes, 8(1), 12-16 (2001).									
		Nahmias, Andre. J, et al., Sero-epidemiological and –sociological Patters of Herpes Simplex Virus Infection in the World, Scand. J. Infect. Dis Support, 69, 19-36 (1990).									
		Okinaga, Shigeaki, Shedding of Herpes Simplex Virus Type 1 into Tears and Saliva in Healthy Japanese Adults, Kurume Med J, 47(4), 273-277 (2000).									
	Ponce, Nora Antiviral Act	Ponce, Nora M.A., et al., Fucoidans From the Brown Seaweed Adenocystis Utricularis: Extraction Methods, Antiviral Activity and Structural Studies, Carbohydr Res, 338(2), 153-165 (2003).									
		Preeprame, Srisomporn, et al., A Novel Antivirally Active Fucan Sulfate Derived From an Edible Brown Alga, Sargassum Horneri, Chem. Pharm. Bull., 49(4), 484-485 (2001).									
		Schaeffer, David J., et al., Anti-HIV Activity of Extracts and Compounds from Algae and Cyanobacteria, Ecotoxicoligy and Environmental Safety, 45, 208-227 (2000).									
		Shan, B.E., et al., Immunomodulating Activity of Seaweed Extract on Human Lymphocytes in Vitro, Int J Immunopharmacol, 21(1), 59-70 (1999).									
		Thompson, K.D., et al., Antiviral Activity of Tasmanian Seaweed Extracts Against Clinical Strains of Herpes Simplex Virus (HSV), Abstract, 18 th Annual Clinical Virology Symposium, April 28-May 1, Florida 2002.									
		Thompson, K.D., et al., The Mode of Action of Two Tasmanian Seaweed Extracts Against Herpes Simplex Virus (HSV), Abstract, 27 th International Herpes Virus Workshop Conference, July 20-26, Cairns 2002.									
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	OTHER DO	OCUMENTS (Includi	ng Auti	hor, Title, Date, Pei	rtinent Page	es, Etc.)					
	Vollstedt, Sabine, et al., Interleukin-12- and Gamma Interferon-Dependant Innate Immunity Are Essential and Sufficient for Long-Term Survival of Passively Immunized Mice Infected with Herpes Simplex Virus Type 1, J Virol, 75(20):9596-600 (2001).										
	Witvrouw, M., et al., Sulfated Polysaccharides Extracted From Sea Algae as Potential Antiviral Drugs, Gen Pharmacol, 29; 497-511 (1997).										
	Zeitlin, Larry, et al., Microbicides for Preventing Transmission of Genital Herpes, Herpes, 9(1): 4-9 (2002).										
	Zhu, Wen, et al., Isolation and Characterization of a Sulfated Polusaccharide From the Brown alga Sargassum Patens and Determination of its Anti-Herpes Activity, Biochem Cell Biol., 81(1), 25-33 (Feb. 2003).										
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